DOCUMENT RESUME

ED 272 780 CG 019 263

AUTHOR Slife, Brent D.; Barnard, Suzanne
TITLE The Adequacy of Cognitive Psychology's Explanation of Consciousness from an Existential View.
PUB DATE Aug 86
NOTE 14p.; Paper presented at the Annual Convention of the American Psychological Association (94th, Washington, DC, August 22-26, 1986).
PUB TYPE Viewpoints (120) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Cognitive Processes; *Cognitive Psychology; *Epistemology; *Existentialism; Phenomenology; Theories
IDENTIFIERS *Cognitive Psychology; *Consciousness

ABSTRACT

Cognitive psychology has been considered to be at the vortex of a revolution in psychology. Schools of humanism and existentialism were originally needed as reactions to the narrowness of behaviorism. The "reactions" in psychology continue to be relevant and needed, particularly existential psychology. The qualities of consiousness in existential and cognitive psychology illustrate the differing views of human reasoning. Three qualities are fundamental to existentialism and phenomenology: (1) the ability to be aware of or reflect upon one's self or existence; (2) the ability to voluntarily direct one's thought and actions; and (3) the goal-directed or telic nature of consciousness. Consciousness appears to have two general meanings for the cognitive scientist: consciousness of one's environment and consciousness of one's self (metacognition). Cognitive psychology relies on demonstrative or logical reasoning. Existential psychology emphasizes dialectical reasoning. If consciousness is a foundational conception for both cognitive and existential psychology as exponents claim, then wide differences exist in general theorizing. Cognitive scientists have succeeded in drawing psychology's attention to the mind, but their explanations seem to merely extend the deterministic, mechanistic, and demonstrative assumptions of behaviorism. The key to unlocking a consciousness that is truly aware, responsible, and intentional is to add dialectical reasoning to one's explanation of human mentation. (ABL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Brent D. Slife
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED272780

The Adequacy of Cognitive Psychology's Explanation of Consciousness from an Existential View

Brent D. Slife and Suzanne Barnard
Baylor University

Cognitive psychology has been considered to be at the vortex of a "revolution" in psychology. Topics that were once looked upon as unduly speculative or introspective, such as consciousness, are now viewed as central issues (Singer, 1984). Schools of humanism and existentialism were originally needed as reactions to the narrowness of behaviorism. Now, however, cognitive psychology is thought to have broadened the scope of psychology such that these schools of reaction are less warranted (Bandura, 1986; Cantor & Kihlstrom, 1981; Mischel, 1981).

The purpose of the present paper is to show the continued relevance and need of these "reactions" in psychology, particularly existential psychology. As a common cornerstone to both disciplines, consciousness will serve to highlight the differences between conceptions of human mentation. Qualities of consciousness that are fundamental to existentialism will be characterized and then compared with current cognitive explanations. The key to the differences between these conceptions will be shown to lie in their assumptions of human reasoning. Cognitive psychology relies exclusively upon demonstrative reasoning, whereas existential psychology emphasizes dialectical reasoning.

Existential Qualities of Consciousness

A comprehensive characterization of the existential qualities of consciousness is a hazardous task given the notorious independence of these theorists (Kauffman, 1956). However, we will not attempt to exhaustively review nor offer a complete list of these qualities. Our intention is to focus on three qualities that seem noncontroversially

CG019263

fundamental to existentialism and phenomenology: 1) the ability to be aware of or reflect upon one's self and existence (Bugental, 1968; Jaspers, 1971; May 1958); 2) the ability to voluntarily direct one's thought and actions (James, 1890; May, 1958; Tillich, 1952); and 3) the goal-directed or telic nature of consciousness (Heidegger, 1962; Sartre, 1953; Yalom, 1980).

Cognitive Explanations of Consciousness

Consciousness appears to have two general meanings for the cognitive scientist: consciousness of one's environment and consciousness of one's self. To limit the scope of the present paper, discussion will center on the latter. This form of consciousness is sometimes labeled metacognition in cognitive psychology, because it is considered to be "above" or "beyond" the mental processing of environmental input. In this sense, consciousness of one's self is considered to be "meta" to a consciousness of one's environment.

Metacognition is considered to have two general categories of function: awareness and executive (cf. Brown, 1978; Cavanaugh & Perlmutter, 1982; Slife, in press). These functions parallel existential self-awareness and volition, but are typically explained through cybernetic principles, especially that of feedback. Awareness functions are considered to be another information processor that is "on-line" with the processor of environmental information. Cognition processes information from the environment and metacognition processes information from cognition, monitoring it much as one computer monitors another.

Executive functions are explained in a similar manner and most commonly analogized to executive routines in a computer. Simon (1979), for example, discusses "production systems" and "central processors" in this sense. These are comprised of conditional "if-then" programming

statements that require certain conditions to be met before certain actions are taken. Complex sets of such statements control many intricate functions, including the reprogramming of subsystems within the auspices of higher-order programming. In this sense, the cybernetic system appears to create and execute its own programs.

Many cognitive scientists view cybernetic systems as inherently telic or goal-directed (Rosenbleuth, Weiner, & Bieglow, 1943; Weiner, 1961). In fact, the term "cybernetic" means "steersman" and was originally coined to note the goal-directed characteristics of many systems, including humans (Weiner, 1961). Even simple cybernetic systems, such as guided missiles or automobile cruise controls, are viewed as goal or future oriented. Changes in these systems, such as returning the missile to its target or adjusting the car to its speed setting, are all made in reference to a future "telos."

Adequacy of Cognitive Explanations

Cognitive explanations of consciousness seem to have the qualities of importance to the existentialist. Unfortunately, such cybernetic explanations are more apparent than real. A closer examination reveals fundamental inadequacies with the explanations of all three characteristics of consciousness.

We begin with the issue of self-awareness. Cognitive psychologists are correct in assuming that some entity "outside" of the processing of environmental information is required to have an awareness of its activities. Regrettably, the same metaphors that required a monitor of the original system are used to explain the monitoring. The question of how control and monitoring is accomplished is merely put off to another level. This is most easily seen in the analogy of one computer feeding back to another. If the first information processor needed monitoring and control,

as cognitive scientists argue, the second "meta" information processor has the same requirements. Some cognitive theorists have in fact proposed meta-metacognition (e.g., Kitchener, 1983), but what is to prevent a logical extension to meta-meta-meta processors and so on? Obviously, the control and awareness properties of the system would always be left to the next meta level, leaving such properties unexplained for all practical purposes (cf. Slife, in press).

In addition, the conception of two "on-line" computers feeding back to one another cannot, in principle, account for awareness. Our central contention is that a mechanism which is feeding back output as new input does not know that it is feeding back. One can, of course, connect another feedback loop to monitor the first, but then the second loop is left unmonitored and thus cannot know that it is feeding back. This characteristic of feedback is consistently overlooked by cognitive scientists. For example, in a recent book on cybernetics Keeney (1983) describes the thermostat, his "classsic example of feedback," as able to "monitor its own performance and [be] self-corrective" (p. 67). This is clearly not the case, however. The thermostat monitors and corrects the room temperature, and not its own performance of monitoring and correcting the room's temperature. It does not monitor the accuracy of its temperature gauge, nor does it have any way of knowing if the temperature variations are a result of room conditions or its own corrections.

Problems also arise with respect to the system's ability to voluntarily control itself, the so-called executive aspect of consciousness. As Weizenbaum (1976) has noted, the very notion of feedback presumes that the master program is already in place. Because feedback occurs after a sequence of processing has been decided upon, it cannot affect the initial

decisive act of selecting the master program from among alternatives. Similarly, the master conditional statements that comprise production or executive systems do not make decisions. If-then programming statements affect the direction the computer takes, but to say that they allow the computer to direct or control itself is misleading. They are merely relaying the directions and control statements of outside agents. They do not have the option of acting on one alternative arbitrarily; they react to the input in relation to someone else's directives. The point is that voluntary change is not possible in such a system. A cybernetic system can never generate alternatives to itself and act on one, without the alternatives and action being themselves dictated by a higher-order program.

As described earlier, the goal-directed, telic aspect of consciousness has long been held to be a quality of cybernetic systems. The thermostat appears to be behaving for the sake of its temperatue setting, and it is difficult to deny that cybernetic systems are "goal-oriented" in this sense. However, this sense of goal orientation is clearly not the only condition that must be met before an entity is considered telic (Rychlak, 1977). A system must also behave for the sake of its <u>own</u> goals. As noted above, the thermostat does not voluntarily decide its own temperature setting; it is assigned. Computers may appear to decide subsystem programming (or goals), but these "decisions" are merely the relaying of some agent's instructions regarding certain input types. If the mere assignment of goals were the criterion for the goal-oriented consciousness of the existentialist, chairs would be conscious because they behaved for the sake of being sat in. Chairs, like thermostats and computers, can be <u>given</u> purposes, but they cannot arbitrarily choose from among alternative goals and act for the sake of one.

Demonstrative and Dialectical Consciousness

The fundamental problem in cognitive psychology's attempt to account for these aspects of consciousness is its assumption of the nature of human reasoning. Virtually all mainstream models of human cognition rely on what is sometimes termed demonstrative reasoning (Rychlak, 1977; Slife, in press; Tageson, 1982). This form of reasoning is typically labeled "logical" because Aristotle's "law of contradiction" is always in effect: X cannot be "A" and "not-A' in the same space and time; and similarly, "bachelors" cannot be "married males" in the usual sense of these terms. In other words, one must reason consistently (or logically) with one's premises. If Socrates is a man and all men are mortal, then Socrates has to be mortal, in a very deterministic sense. The computer is the epitome of this type of reasoning because it cannot "reason" outside of or contrary to its "premises" or master program. It can simulate contrariness or error, but it can only do so by being consistent with its higher-order programming.

Demonstrative reasoning, then, "begins" only after premises or programs have been selected. There is always something logically (if not chronologically) precedent to this reasoning, viz., the more basic premise or the higher-order program. It follows, therefore, that such reasoning cannot explain the selection of these programs or premises. The mind must be rigidly consistent with its logical precedents, whether they be the genetic imperatives of the sociobiologist, the stimuli of the behaviorist, or the executive systems of the cognitive psychologist. Reliance on demonstrative assumptions in cognitive psychology will never permit us to conceptualize a mental ability to voluntarily and intentionally change premises. To accomplish this, dialectical reasoning must be added to the account.

Dialectical reasoning is the mind's ability to reason oppositionally or, in our case, alternatively. This is the reasoning that occurs "before" demonstrative logic, when alternative premises are being considered. Philosophers from Plato (1888) to Kant (1966) to Adler (1927) have relied upon this form of reasoning to generate alternatives, sometimes in direct opposition to the particular meanings under consideration. When applied to human consciousness (cf. Kant, 1966; Rychlak, 1977), the dialectic is the recognition that meanings are often bipolar. That is, some meanings are apprehended as having "poles" of implications that are the opposite from the unipolar implications which are demonstratively consistent.

For a dialectical reasoner, what is mentally encoded is not only what the information is, but also what the information is not. In this sense, "A" and "not A" coexist in time and space, and indeed define or outline one another. To process the meaning of "beauty," one must be able to understand the boundaries of this meaning and thus gain a rudimentary outline of "ugliness." The "preacher's kid," in this sense, not only understands how he is "supposed" to behave, but also how he is not supposed to behave. Mechanisms follow instructions as they are given, but dialectical reasoners must decide whether to follow the instructions as they are intended or any number of alternatives implied by the information simultaneously.

Existentialism and Dialectical Reasoning

Much of existential psychology has long recognized the person's ability to dialectically reason. A few have eschewed such abilities, as Rychlak (1981) has noted, but by far the majority show clear evidence of such abilities in their theorizing, though this is rarely made explicit. Discussions of how one maintains or heightens a consciousness of being

are typically replete with dialectical theorizing. For example, "boundary situations" are considered to be events or experiences that directly and inescapably confront a person with the nature of his or her being. They do so because they remind a person of the limits of existence. A close brush with death, for instance, serves to heighten a consciousness of one's mortality (Yalom, 1980).

This heightening of consciousness is accomplished dialectically. Understanding the concept of limit or boundary necessitates the simultaneous comprehension of both "poles" of a bipolar meaning. That is, to comprehend the limit of a thing one must know where it ends or ceases to be. This implies a knowledge of both what the thing is and what it is not. The meaning of "life" cannot be understood without the meaning of "death." Life and death are not separate "bits" of data that are linked through environmental associations and input sequentially into the system. They are inextricably intertwined meanings--to experience one is to experience at least the boundaries of the other. As the existentialist Yalom (1980) notes, "Life and death are interdependent; they exist simultaneously, not consecutively; death whirs continuously beneath the membrane of life and exerts a vast influence upon experience and conduct" (emphasis added, p. 29).

Existential Consciousness and the Dialectic

A dialectical basis for theorizing enables the existential psychologist to conceptualize the three qualities of consciousness outlined earlier. Dialectical reasoning permits the person to have knowledge (and awareness) of fundamental meaning structures analogous to master programs and operating systems (e.g., Binswanger's, 1958, "world designs"). Such meaning structures become conscious as they are

contrasted with other meaning structures. Often patients undergoing relaxation exercises, for example, are not conscious of the fact that they are tense until they experience the contrasting state of relaxation. Many existentialists hold that fundamental meaning structures can become conscious through boundary situations in a similar manner. Thus, the dialectic permits true transcendence, namely the awareness of fundamental meaning structures in light of future possibilities.

As such possibilities become conscious, alternatives to even "master" life premises are available. This enables the person to act voluntarily because a choices are available that are not themselves dictated by more fundamental programming or premises. If, however, a person is relegated to "following the rules," as Dreyfus (1979) and others have shown is the foundation assumption of cognitive science, then choice of action is not possible.

Regarding the goal-oriented nature of consiousness, one cannot be fully conscious without knowledge that the choices being made are unalterably one's <u>own</u> choices. This is the root of meaninglessness in existentialism. Meanings (goals, choices) are one's own meanings, and do not exist apart from the person's experience of them. This is in direct contrast to cognitive psychology's view of goal-orientation where goals (like programs) are assigned by external agents. Cybernetic systems are thought to behave for the sake of goals in the same manner that thermostats respond to temperature settings. However, this is not goal-oriented behavior in the usual sense of <u>intentional</u> behavior. To "intend" a pattern of behavior is to select from among options and behave "for the sake of" this selection. Behavior for the sake of an <u>assigned</u> goal is intentional if one chooses to go along with the "assignment" and thus could have chosen

otherwise. However, behavior for the sake of a "goal" in which no choice is possible is not intentional. For example, this paper is intended to be understood--a goal assigned to it by its authors. However, papers are not normally considered to intend for themselves to be read. For this, papers would have to be able to choose from among optional goals. Intentionality of consciousness, then requires a reasoning process that permits optional premising; intentionality is thus dialectical in nature.

Conclusion

In conclusion, if consciousness is a foundational conception for both cognitive and existential psychology as exponents claim, then wide differences exist in general theorizing. In fact, the differences appear to be nearly as wide as when existential and humanistic psychologists first reacted to strict behaviorism. Cognitive scientists have succeeded in drawing psychology's attention to the mind, but their explanations seem to merely extend the deterministic, mechanistic, and demonstrative assumptions of behaviorism. The key to unlocking a consciousness that is truly aware, responsible, and intentional is to add dialectical reasoning to one's explanation of human mentation. Demonstrative reasoning capacities are not replaced. In fact, dialectical reasoning can never be focused or applied without demonstrative ability to logically and consistently extend the meanings chosen. Cognitive psychologists, then, are tapping a vital part of our mental apparatus. Their accounts, however, are destined to be inadequate unless they can draw upon the insights of existential psychology.

References

Adler, M. J. (1927). Dialectic. New York: Harcourt, Brace.

Atkinson, R. C., & Shiffrin, R. M. (1977). Human memory: A proposed system and its control processes. In G.H. Bower (Ed.), Human memory: Basic processes. New York: Academic Press.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Binswanger, L. (1958). The existential analysis school of thought. In E. Angel, H.F. Ellenberger, & R. May (Eds.), Existence: A new dimension in psychiatry and psychology (pp. 191-213). New York: Basic Books.

Brown, A. L. (1978). Knowing when, where, and how to remember: A problem of metacognition. In R. Glaser (Ed.), Advances in Instructional Psychology, 1, Hillsdale, NJ: Erlbaum.

Bugental, J. F. (1968). Values and existential unity. In C. Buhler & F. Massarik (Eds.), The course of human life: A study of goals in the humanistic perspective (pp. 383-392). New York: Springer.

Cantor, N. & Kihlstrom, J. F. (1981). Personality, cognition, and social interaction. Hillsdale,NJ: Erlbaum.

Cavanaugh, J. C. & Perlmutter, M. (1982). Metamemory: A critical examination. Child Development, 53, 11-28.

Dennett, D. (1978). Brainstorms: Philosphical essays on mind and psychology. Montgomery, VT: Bradford Books.

Dreyfus, H. (1979). What computers can't do: A critique of artificial reason. New York: Harper & Row.

Hatt, H. E. (1968). Cybernetics and the image of man. New York: Abingdon Press.

Heidegger, M. (1962). Being and time. Reans. by J. Macquarie & E. Robinson. New York: Harper and Row.

James, W. (1890). The principles of psychology. New York: Henry Holt.

Jaspers, K. (1971). Philosophy of existence. Trans. by R. F. Grabau. Pittsburgh: University of Pennsylvania Press.

Kant, I. (1966). Critique of pure reason. Trans. by F. M. Muller. Garden City: Doubleday.

Kaufmann, W. (1956). Existentialism from Dostoevsky to Sartre. Cleveland: World Publishing Company.

Keeney, B. P. (1983). Aesthetics of change. New York: Guilford Press.

Kitchner, K. S. (1983). Cognition, metacognition, and epistemic cognition: A three-level model of cognitive processing. Human Development, 26, 222-232.

May, R. (1958). Contributions of existential psychotherapy. In E. Angel, H. F. Ellenberger, & R. May (Eds.), Existence: A new dimension in psychiatry and psychology (pp. 37-91). New York: Basic Books.

Mischel, W. (1981). Historical perspective. In N. Cantor & J. F. Kihlstrom (Eds.), Personality, cognition, and social interaction (pp. 3-17). Hillsdale, NJ: Erlbaum.

Plato. (1888). Theatetus. Oxford: Clarendon Press.

Rosenbleuth, A., Wiener, N., & Bigelow, J. (1943). Purpose and Teleology, Philosophy of Science, 10, 18-24.

Rychlak, J. F. (1977). The psychology of rigorous humanism. New York: McGraw-Hill.

Rychlak, J. F. (1979). Discovering free will and personal responsibility. New York: Oxford Press.

Rychlak, J. F. (1981). Theories of personality and psychotherapy. New York: Houghton-Mifflin.

Sartre, J. P. (1953). Existential psychoanalysis. New York: Philosophical Library, 1953.

Simon, H. A. (1979). Information processing models of cognition. In M. R. Rosenzweig & L. W. Porter (Eds.), Annual Review of Psychology, 30, Palo Alto, CA: Annual Review.

Singer, J. L. (1984). The private personality. Personality and Social Psychology Bulletin, 10, 7-30.

Slife, B. D. (in press). Can cognitive psychology account for metacognitive functions of mind? Journal of Mind and Behavior.

Tageson, C. W. (1982). Humanistic psychology: A synthesis. Homewood, IL: The Dorsey Press.

Tillich, P. J. (1952). The courage to be. New Haven: Yale University Press.

Wiener, N. (1961). Cybernetics. 2nd ed. Cambridge, Mass: M.I.T. Press; New York: John Wiley.

Yalom, I. D. (1980). Existential psychotherapy. New York: Basic Books.